ABSTRACT OF THE DISCLOSURE

A method of manufacturing golf balls is disclosed that prevents the cover from cracking due to thermal expansion of the core during the cover formation process. The method includes the forming a core. One or more optional boundary layers can be applied to the surface of the core. The core and any boundary layers are pre-heated such that the core and any boundary layer undergo volumetric thermal expansion. After the pre-heating, the cover of the ball is formed over the core and any boundary layer. The method of the present invention also decreases cover molding cycle times for golf balls.